

AMENDMENTS TO THE CLAIMS

Applicants submit below a complete listing of the current claims, including marked-up claims with insertions indicated by underlining and deletions indicated by strikeouts and/or double bracketing. This listing of claims replaces all prior versions, and listings of claims in the application.

1. (Currently amended). A resonant power LED control ~~which comprises~~ apparatus comprising a single resonant converter for the simultaneous, independent brightness and color control of two LEDs or two groups of LEDs, wherein the converter comprises a half or full bridge DC/AC converter with a control unit, a resonant capacitor, and a transformer, wherein at least one first LED of the two LEDs or two groups of LEDs conducts a first current only during a positive half-cycle of a secondary voltage across at least one secondary winding of the transformer, and at least one second LED of the two LEDs or two groups of LEDs conducts a second current only during a negative half-cycle of the secondary voltage.
2. (Cancelled).
3. (Cancelled).
4. (Currently amended). A resonant power LED control apparatus as claimed in claim 1, wherein ~~each of the two LEDs or two groups of LEDs comprises~~ several LEDs ~~are joined~~ together into groups of arrays connected in series ~~each time~~.
5. (Currently amended). A resonant power LED control apparatus as claimed in claim 1, wherein a voltage supply of the two LEDs or the two groups of LEDs takes place via ~~[[a]]~~ the at least one secondary side winding of the transformer.
6. (Currently amended). A resonant power LED control apparatus as claimed in claim 1, wherein ~~the transformer has a secondary winding to which~~ the two LEDs or the two groups of LEDs (41, 42) are connected to the at least one secondary winding in antiparallel.

7. (Currently amended). A resonant power LED control apparatus as claimed in claim 1, wherein ~~the transformer has two secondary windings to which~~ the two LEDs or the two groups of LEDs (41, 42) are connected to the at least one secondary winding of the transformer such that they are supplied with current in succession.

8. (Currently amended). A resonant power LED control apparatus as claimed in claim 7, wherein the transformer ~~[[has]]~~ comprises a central tap at ~~[[the]]~~ a secondary side, ~~to which tap the central tap being connected to~~ a common anode or cathode of the two LEDs or the two groups of LEDs is connected.

9. (Currently amended). A resonant power LED control apparatus as claimed in claim 8, wherein a further LED is connected as a main light source between the central tap and the common cathode or anode of the two LEDs or the two groups of LEDs, wherein the two LEDs or the two groups of LEDs serve as subsidiary light ~~sources~~ source LEDs.

10. (Currently amended). A resonant power LED control apparatus as claimed in claim 9, wherein a switching diode is used instead of one of the subsidiary light source LEDs.

11. (Currently amended). A resonant power LED control apparatus as claimed in claim 6, wherein ~~the color~~ colors of the two LEDs or the two groups of LEDs ~~comprises~~ comprise white and amber/orange.

12. (Currently amended). A resonant power LED control apparatus as claimed in claim 9, wherein ~~[[the]]~~ a first color of the subsidiary light source LEDs comprises green, and ~~[[the]]~~ a second color of the further LED comprises red.

13. (Currently amended). A resonant power LED control apparatus as claimed in claim 10, wherein ~~[[the]]~~ a first color of the subsidiary light source LEDs comprises cyan/blue and ~~[[the]]~~ a first color of the further LED comprises amber/orange.

14-16. (Cancelled).

17. (New) An apparatus, comprising:

a transformer having a primary winding and at least one secondary winding;

at least one first light source coupled to the at least one secondary winding so as to conduct a first secondary current and thereby generate first light only during a positive half-cycle of a secondary voltage across the at least one secondary winding;

at least one second light source coupled to the at least one secondary winding so as to conduct a second secondary current and thereby generate second light only during a negative half-cycle of the secondary voltage;

a resonance circuit coupled to the primary winding for providing a resonance current through the primary winding; and

a controller coupled to the resonance circuit for providing to the resonance circuit at least one control signal having a variable duty cycle,

wherein:

the resonance current is based at least in part on the variable duty cycle of the at least one control signal; and

the variable duty cycle of the at least one control signal is based at least in part on at least one of a first feedback signal associated with the at least one first light source and a second feedback signal associated with the at least one second light source.

18. (New) The apparatus of claim 17, wherein the first feedback signal and the second feedback signal are optical signals.

19. (New) The apparatus of claim 17, wherein the first feedback signal comprises a first measured value of the first secondary current and the second feedback signal comprises a second measured value of the second secondary current.

20. (New) The apparatus of claim 17, wherein each of the at least one first light source and the at least one second light source comprises a plurality of LEDs.

21. (New) The apparatus of claim 17, further comprising at least one third light source coupled to the at least one secondary winding so as to conduct a third secondary current and thereby generate third light during both the positive half-cycle and negative half-cycle of the secondary voltage.

22. (New) The apparatus of claim 21, wherein the third light source is a white LED.

23. (New) The apparatus of claim 22, wherein the first light source is a red LED and the second light source is a blue LED.

24. (New) An apparatus, comprising:

at least one first light source coupled to at least one secondary winding of a transformer so as to conduct a first secondary current and thereby generate first light only during a positive half-cycle of a secondary voltage across the at least one secondary winding;

at least one second light source coupled to the at least one secondary winding so as to conduct a second secondary current and thereby generate second light only during a negative half-cycle of the secondary voltage; and

at least one third light source coupled to the at least one secondary winding so as to conduct a third secondary current and thereby generate third light during both the positive half-cycle and negative half-cycle of the secondary voltage.

25. (New) The apparatus of claim 24, wherein the third light source is a white LED.

26. (New) The apparatus of claim 25, wherein the first light source is a red LED and the second light source is a blue LED.